



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/646,855	08/21/2003	Tadahiro Ohmi	8075-1055-1	1521
------------	------------	---------------	-------------	------

466 7590 03/22/2007
YOUNG & THOMPSON
745 SOUTH 23RD STREET
2ND FLOOR
ARLINGTON, VA 22202

EXAMINER

LAVILLA, MICHAEL E

ART UNIT	PAPER NUMBER
----------	--------------

1775

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
--	-----------	---------------

3 MONTHS	03/22/2007	PAPER
----------	------------	-------

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/646,855

Applicant(s)

OHMI ET AL.

Examiner

Michael La Villa

Art Unit

1775

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 December 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 3 and 4 is/are pending in the application.
- 4a) Of the above claim(s) 4 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 3 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 December 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☒ Certified copies of the priority documents have been received in Application No. 09/889,269.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of Group I, Claim 3, in the reply filed on 21 December 2006 is acknowledged.
2. Claim 4 is withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 21 December 2006.
3. The requirement is still deemed proper and is therefore made FINAL.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:
 - (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.
5. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:
 1. Determining the scope and contents of the prior art.
 2. Ascertaining the differences between the prior art and the claims at issue.
 3. Resolving the level of ordinary skill in the pertinent art.
 4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Art Unit: 1775

6. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kuze et al. USPN 4,119,761 in view of Hutkin USPN 4,088,544.
7. Kuze et al. teaches coating a metallic substrate with a chromium containing coating and then subjecting the chromium containing coating to heat treatment and oxidizing atmosphere so as to form a chromium-oxide passivating layer. See Kuze et al. (col. 2, lines 30-68; col. 4, lines 12-52; col. 6, lines 10-41; col. 9, line 45 through col. 10, line 55; and Claims 6-22). Kuze does not specifically teach the surface roughness of the substrate, although Kuze et al. teaches a range of effective surface roughness Ra values for the formed chromium oxide layer, namely, from 0.05 to 30 microns, most preferably from 0.3 to 5 microns. Kuze also teaches that preferred chromium coating thicknesses range from 1 to 10 microns.
8. It would have been obvious to one of ordinary skill in the art at the time of the invention to fabricate the laminate of Kuze with any of the suggested coating thicknesses, including those among the thinner thicknesses, as all are described as being effective. With these thinner coating layers, it would be expected that the coating layer surface roughness mirrors the surface roughness of the substrate and that the substrate surface roughness can be controlled to affect the coating layer surface roughness. Hutkin teaches this relationship. See Hutkin (col. 6, lines 14-25). It would have been obvious to one of ordinary skill in the art at the time of the invention to control the surface roughness of the substrate in order to affect the surface roughness of the coating layer, as Hutkin teaches that

this relationship exists. At the thinnest layer thicknesses, it would have been obvious to one of ordinary skill in the art at the time of the invention to minimize the surface roughness of the substrate in order to achieve surface roughness in the lowest range taught by Kuze as effective. Likewise, where the coating layer surface roughness mirrors that of the substrate, it would be expected that the substrate surface roughness obtains surface roughness values in the claimed range.

9. Moreover, even though the treatment step to form a chromium oxide layer may affect the surface roughness as compared to that of the chromium coating layer, such a difference would not be expected to be substantial. Hence, it would be expected that, where the passivated coating layer achieves the lowest surface roughness values described as effective by Kuze for the thinnest coating layers, the substrate surface roughness would achieve the claimed surface roughness values. Applicant also appears to consider the surface roughness of the metallic surface and of the treated chromium-oxide layer surface as both obtaining the claimed values of surface roughness when the surface roughness of the metallic surface achieves the claimed values. See Specification (page 4, lines 1-14; page 5, lines 1-4; page 9, line 16 through page 10, line 2; Abstract, last sentence; and Figure 3) (referring to both surfaces as achieving the claimed surface roughness values when the metallic surface surface roughness values are achieved).
10. It is noted that Kuze reports thicknesses using the conventional symbol for mil units, as opposed to micron units. However, the thicknesses of the measured

layers are apparently being reported in micron units since Kuze also refers to the thicknesses of these same layers in angstrom units, for which the correct correspondence requires that the reported thickness values are in micron units.

Response to Amendment

11. Applicant's amendments and arguments are satisfactory for overcoming the section 112, second paragraph rejection of the Office Action mailed on 30 June 2006, and so that rejection is withdrawn. Applicant's amendment has broadened the composition of the passivation layer and claimed the method in the form of two steps, rather than one step.

Conclusion

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

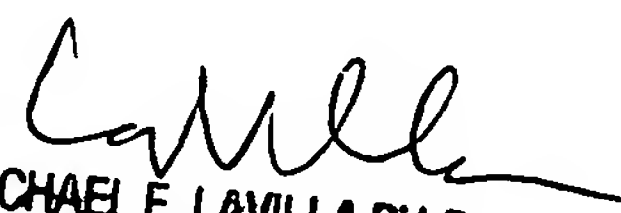
13. A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will

Art Unit: 1775

the statutory period for reply expire later than SIX MONTHS from the date of this final action.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael La Villa whose telephone number is (571) 272-1539. The examiner can normally be reached on Monday through Friday.
15. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jennifer McNeil can be reached on (571) 272-1540. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.
16. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Michael La Villa
12 March 2007


MICHAEL E. LAVILLA PH.D.
PRIMARY EXAMINER